

Claims

1. A method for producing a high definition video signal comprising:
 - demuxing a high definition program stream into at least one high definition video data stream component and a plurality of companion component data streams;
 - muxing the plurality of companion component data streams with a standard resolution video stream into a standard definition video program stream;
 - demuxing the standard definition program stream into a standard definition video data stream, and a subpicture data stream;
 - scaling the standard definition video stream to a resolution consistent with the high definition video data stream;
 - overlaying the scaled standard definition video stream with the demuxed subpicture data stream; and
 - replacing the standard definition video stream with the at least one high definition video data stream to produce a high definition video data signal.
2. The method of claim 1 further including, prior demuxing the high definition program stream, receiving a program data stream.
3. The method of claim 2 further including determining if the received program data stream is a high definition program data stream.
4. The method of claim 1 wherein the plurality of companion component data streams comprises one or more of audio data stream, a subpicture data stream, and a navigational data stream.

5. The method of claim 1 wherein the high definition program stream is in encrypted format.
6. The method of claim 5 further comprising, prior to demuxing the high definition program stream, decrypting the encrypted high definition program stream.
7. The method of claim 1 wherein the at least one high definition video data stream component is in compressed format.
8. The method of claim 7 further comprising, prior to the replacing step, decompressing the high definition video data stream.
9. The method of claim 1 further comprising generating the standard resolution video stream.
10. The method of claim 9 wherein the generated standard resolution video stream comprises a blue screen video elementary stream.
11. An apparatus for use in producing high a definition video data signal, comprising:
 - a high definition program stream demuxer for extracting a plurality of component data streams from a high definition program stream, the plurality of component data streams comprising at least one high definition video data stream and a set of other component data streams;
 - a generator for generating a standard definition video stream;
 - a muxer for combining the generated standard definition video stream with the set of other component data streams into a standard definition program stream;
 - a video scaler for increasing the resolution of the standard definition video stream to a resolution consistent with the high definition video stream;

a video mixer for replacing the scaled up standard definition video stream with the high definition video data stream; and

an encrypter for creating a high definition video data signal from the high definition video data stream and the set of other component data streams.

12. The apparatus of claim 11 further including a receiver for receiving a program data stream.

13. The apparatus of claim 12 wherein the received program data stream is in encrypted format.

14. The apparatus of claim 13 further including a decrypter for decrypting the encrypted program data stream.

15. The apparatus of claim 12 further including a router for determining if the received program data stream is a high definition program stream.

16. A method for use in processing a high definition video signal, the method comprising:

receiving a first high definition program stream having a first high definition video stream component;

deriving, from the first high definition program stream, a first standard definition program stream;

receiving a second standard definition program stream that is derived from the first standard definition program stream; and

deriving, from the second standard definition program stream and the first high definition video stream component, a second high definition program stream.

17. The method of claim 16 wherein the first standard definition program stream lacks a high definition video stream component.
18. The method of claim 16 further including generating a standard definition video stream.
19. The method of claim 18 wherein the generated standard definition video stream comprises a standard definition blue screen video stream.
20. The method of claim 18 wherein the second standard definition program stream includes the generated standard definition video stream.
21. The method of claim 20 wherein the generated standard definition video stream component of the second standard definition program stream is scaled to a resolution compatible with the first high definition video stream.
22. The method of claim 21 wherein the scaled standard definition video stream is replaced by the first high definition video stream.